SCIENTIFIC SERIALS.

Symons's Monthly Meteorological Magazine, November.—The climate of the British Empire in 1895. The values for that year present one unusual feature: the highest shade temperature (107·2°) was recorded at Calcutta, being apparently the highest reading there in the past fifteen years; the maximum is generally recorded at Adelaide. For extreme cold, Winnipeg (− 45·5°) is unapproachable; this station has also the greatest annual range (133·8°), and the greatest mean daily range (23·0°). The driest station is Adelaide, mean humidity 59 per cent.; and the dampest, Esquimalt, 89 per cent. The highest temperature in the sun was 178·0°, at Trinidad, and the lowest temperature on the grass, − 27·0°, at Toronto (the minimum temperature on the grass is not recorded at Winnipeg). Colombo, Ceylon, had the greatest rainfall, 92·23 inches, and Malta, the least, 11·38 inches. The greatest amount of sunshine occurred at Bombay and Jamaica.—The scientific use of kites. An account is given of the recent experiments at the Blue Hill Observatory; these have already been referred to in our columns. The Washington Weather Bureau is also giving great attention to the subject, and has requested Prof. Marvin and others to make a special study of this branch of meteorological research.—This number also contains notes on the first use of the word "isobars," and on meteorological observations in schools; the latter subject has already been noticed in our columns.

IN the *Nuovo Giornale Botanico Italiano* for October, Sig. A. Preda concludes a very elaborate paper on the Italian species of *Narcissus*. In addition to an enumeration of the species, a detailed account is given of the structure of the flower and other organs of the plant, especially of the nature of the corona, and of the mode of pollination.—Sig. E. Migliorato discusses the nature of the spines in the *Aurantiaceæ*, which he decides to be of cauline, and not foliar origin.

IN the *Journal of Botany* for November, a very interesting addition to the British flora is recorded by Mr. F. Townsend, in *Euphrasia salisburgensis*, gathered by the Rev. E. S. Marshall in Co. Mayo. The species is an eminently Alpine one, being found at elevations between 3400 and 7800 feet in Switzerland. It appears to find its lowland limit in Ireland, where it occurs almost on the sea-level.

SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, November 19.—Mr. A. G. Vernon Harcourt, President, in the chair.—The following papers were read:—Sulphocamphoric acid and derivatives of camphorsulphonic acid, by A. Lapworth and F. S. Kipping. Sulphocamphoric acid $SO_3H.C_8H_{13}(COOH)_2$ is obtained by oxidising α-bromocamphorsulphonic acid; its sulphonic chloride is converted into π-chlorocamphoric acid by heat.—A compound of camphoric acid and acetone, by W. J. Pope. Camphoric acid crystallises from acetone in crystals having the composition $C_{10}H_{16}O_4, \frac{1}{2}Me_2CO$; they are crystallographically closely related to camphoric anhydride.—Mercury hyponitrites, by P. C. Rây. A solution containing both mercurous and mercuric nitrites is obtained by the dissociation of mercurous nitrite; on adding sodium hyponitrite, mercurous and mercuric hyponitrite are formed.—The nitrites of mercury and the conditions under which they are formed, by P. C. Rây.—The interaction of mercurous nitrite and the alkyl iodides, by P. C. Rây. Apparently ethyl nitrite and nitroethane are formed in the interaction of ethyl iodide and mercurous nitrite.—Crystallography of the monohydrated mercurous nitrite, by T. H. Holland.—On the identity of dextrose from different sources; with special reference to the cupric oxide reducing power, by C. O'Sullivan and A. L. Stern. The optical activity, cupric oxide reducing power, and the specific gravities of aqueous solutions of dextrose prepared from cane and beet sugar, starch and lactose have been determined; the factors thus obtained are the same for the various samples of dextrose, so that it is concluded that the latter are identical.—Note on Mr. W. J. Humphreys' paper on the solution and diffusion of certain metals in mercury, by Prof. Roberts-Austen.—Solution and diffusion of certain metals and alloys in mercury: Part II., by W. J. Humphreys. The author has investigated the rate of diffusion of aluminium, antimony, cadmium, magnesium, thallium, and a few alloys in mercury; he considers that solution and diffusion in mercury may serve to distinguish between mixtures and compounds in the case of alloys.—Note on the heat of formation of the silver amalgam Ag_2Hg_8, by Miss F. T. Littleton. The heat of formation of the amalgam Ag_2Hg_8 is about + 3432, and its specific heat is 0·029; the specific heat calculated from those of the constituent metals is 0·0359.—Preliminary note on the action of alkyl iodides on silver malate, by T. Purdie and G. D. Landor. A mixture of isopropylic isopropoxysuccinate and isopropylic malate is obtained by the action of isopropylic iodide on silver malate; the formation of the first compound suggested the idea that the alkylic malates produced from the silver salt may be contaminated with alkyloxysuccinates. This idea seems to be fully confirmed by examination of the alkylic malates so obtained.—On certain thiocarbimides derived from complex fatty acids, by A. E. Dixon.

Entomological Society, November 18.—Prof. Raphael Meldola, F.R.S., President, in the chair.—Mr. Tutt exhibited a series of the ochreous form of *Tephrosia bistortata*, Goetze, known as ab. *abietaria*, Haw., captured by Mr. Mason in March 1895 and 1896, near Clevedon, Somerset; also a series of the second brood of the same species (ab. *consonari*, St.), bred from ova laid by the Clevedon specimens. He also exhibited a series of *Tephrosia crepuscularia*, Hb. (*biundularia*, Esp.), taken by Dr. H. Corbett at Doncaster; a peculiar variety of *Hipparchia semele*, captured by Mr. H. S. Clarke near Ramsey, Isle of Man; also a series of *Plusia bractea* bred from ova laid in July last. The eggs and larvæ had been subjected to forcing treatment, with the result that the moths emerged in October.—Dr. Sharp called attention to Mr. Ernest Green's plates of the *Coccidæ* of Ceylon, which were exhibited on a screen in the room, and said that he had been inclined to consider the *Coccidæ* as a distinct order of insects, but at present the evidence was hardly sufficient to warrant this. He asked Mr. Green if he could give him any information with regard to the development of the wings in the male. Mr. Green said that in the males of the *Coccidæ* the wings first appeared in the penultimate stage as small projections on the sides of the thorax. These wing-pads grew to a certain extent without any further ecdysis. Though the insect was then quite inactive, and took no food during this stage, the rudimentary wings and legs were free from the body, and were capable of some slight movement. After the final ecdysis the wings of the imago were fully expanded, and assumed their natural position before the insect left the sac, or puparium, in which the resting stage had been passed.—Mr. Bethune-Baker exhibited a yellow spider from Orotava, which was of the exact colour of the flowers that it usually rested upon, and which had been observed to catch *Vanessæ* which settled on these flowers. Mr. Barrett said he had noticed a spider with the same habit on the ox-eye daisy in Surrey. Mr. Bethune-Baker also exhibited a very curious dark variety of *Arctia caja*, bred by Mr. Moore.—Prof. Meldola stated that it had been of late found difficult to store bristles in the city owing to the ravages of a moth, living specimens of the larvæ and pupæ of which he exhibited. Mr. Barrett said that the moth was *Tinea biselliella*. Mr. Bland did stated that the bisulphide of carbon treatment might be found to be of advantage if it were practicable, but more would have to be ascertained with regard to the extent and character of the ravages before anything could be determined upon. Mr. Merrifield, Mr. Green, and others took part in the discussion which followed.—Mr. Blandford called attention to the use of formalin as a preventive of mould, and said that it would probably be found of use in insect collections; an object once sprayed with this substance never became mouldy afterwards. Prof. Meldola said that formalin was another name for a solution of formic aldehyde; it is now much used in the colour industry, and is, therefore, produced on a large scale.—Mr. Newstead communicated a paper entitled "New *Coccidæ* collected by the Rev. A. E. Eaton in Algeria."

Zoological Society, November 17.—Dr. St. George Mivart, F.R.S., Vice-President, in the chair.—Mr. Sclater gave an account of some of the more interesting animals observed by him during a visit to the Gardens of Antwerp, Cologne, Dusseldorf, Hanover, Amsterdam, the Hague, and Rotterdam in June last.—Mr. P. Chalmers Mitchell made remarks on a supposed case of telegony exhibited by a fox-terrier in showing peculiarities due to a previous fertilisation of its mother by a Dachshund. A discussion followed, in which Sir Everett Millais, Mr. Tegetmeier, and others took part, and expressed opinions generally unfavourable to the theory of telegony.—Dr. Leonard Hill made some remarks on supposed cases of the inheritance of acquired characters as shown by breeding guinea-pigs.—Mr. Sclater exhibited, on behalf of the Hon. H. S. Littleton, a coloured life-sized model of the Australian lung-fish (*Ceratodus forsteri*).—Mr. Blanford, F.R.S., exhibited, on behalf of Major C. S. Cumberland, some heads of *Ovis ammon* shot by him on the Altai Mountains in Central Asia.—Mr. Oldfield Thomas read a paper "On Further Collections from Nyasaland," being a continuation of three previous papers on the mammals of that country. The specimens now referred to had been collected and sent home by Sir Harry Johnston, Consul Alfred Sharpe, Dr. Percy Rendall, and Mr. Alexander Whyte. Two species were described as new: a peculiar hoary-coloured baboon from Fort Johnston, proposed to be called *Papio pruinosus*, and a steinbok with the white streaks in its fur characteristic of the grysbok. The latter had been obtained by Mr. Sharpe in Southern Angoniland, and was proposed to be called *Raphiceros sharpei.*—Mr. W. E. de Winton read a paper on some rodents from Mashonaland and Matabeleland, British South Africa, collected by Mr. J. Ffolliott Darling and Mr. F. C. Selous. This memoir contained descriptions of six species and two subspecies of rodents new to science. Amongst these were a dormouse very much smaller than *Graphiurus murinus*, to which the name *G. nanus* was given; a pouched rat, which was called *Saccostomus mashonæ;* and a mole-rat, proposed to be called *Georychus nimrodi.*—A communication was read from Mr. Alfred E. Pease containing notes on the antelopes of the Aures and Eastern Algerian Sahara.—Communications were read from Dr. A. G. Butler, on two collections of Lepidoptera made by Mr. R. Crawshay in Nyasaland; and on a collection of Lepidoptera from Nyasaland, presented to the Museum by Sir H. H. Johnston, K.C.B., and collected by J. B. Yule.—A communication was read from Mr. Joseph I. S. Whitaker, containing field-notes on the gazelles of Tunisia.

Anthropological Institute, November 24.—Mr. E. W. Brabrook, President, in the chair.—Lieut. Boyle T. Somerville, R.N., read a paper entitled "Ethnographical Notes on New Georgia, Solomon Islands." Lieut. Somerville recently passed some time in the islands while on surveying duty with H.M.S. *Penguin*, and both he and Lieut. Weigall acquired sufficient knowledge of the native dialects to be enabled to converse with the people in their own language. To this circumstance, and to the fact that the hints given in "Anthropological Notes and Queries" were systematically followed, a paper of quite exceptional interest was due, which forms a valuable addition to previously existing material on the ethnology of the South Seas. A point of exceptional importance is the occurrence of a rarely seen hairy animal in the jungles in the interior of the island. From the descriptions given by a number of natives, of which Lieut. Somerville quoted five of independent origin, this animal would appear to resemble an anthropoid ape, though a native who had seen one declared that it was not very like a monkey shown to him on board a European ship. The peculiar prognathous character of the well-known carved figures made in the Solomon Islands is possibly copied from a similar characteristic noticed in an animal prototype. Whatever this animal may be, the natives here canonised it as an evil spirit, and attribute to it the power of visiting either with sickness or death those who are unfortunate enough to see it. In spite of these fanciful beliefs, the positive existence of some such animal is confirmed by Lieut. Weigall, who himself saw a curious hairy animal on the edge of the jungle, but was unable to approach within sufficient distance to obtain a perfectly clear view. It must be remembered that the vegetation in this part of the Pacific is unusually dense, owing to the very frequent and regular rainfall. Nearly all the natives live close to the sea, and in order to penetrate into the interior it is necessary literally to cut one's way. Under these circumstances it is at least possible that some rare species may have hitherto evaded the notice of travellers. Lieut. Somerville believes this to be the case, and he is a competent observer, quite able to estimate the value of the evidence presented in the different native accounts. A number of admirable lantern-slides accompanied the paper, and specimens of native art in the form of pencil-sketches of the frigate-bird, canoes, &c., made by natives under the author's eye, were exhibited. A carefully copied specimen of native music was also shown.

MANCHESTER.

Literary and Philosophical Society, December 1.—Dr. Edward Schunck, F.R.S., President, in the chair.—The President exhibited some specimens of the cochineal insect, and of the Cactus *Opuntia*, the only member of the Cactaceæ on which the insect lives.—Dr. C. H. Lees called attention to the experiments of E. Wiedemann on the specific heats of vapours and their variation with temperature, and remarked that, since the specific heats of all the vapours experimented on increase with the temperature, it is probable that they do so for all vapours, including steam. Hence, the value of the specific heat of steam between given temperatures, required in Rankine's formula for the total heat necessary to raise water from any temperature to steam gas at another temperature, is still unknown.—Descriptions of new species of mollusca from the millstone grit, and lower coal measures, of Lancashire, by H. Bolton. The author described five species of mollusca and one brachiopod from the millstone grit and lower coal measures which have recently come into the possession of the Manchester Museum, Owens College, by the acquirement of the collections of Sir U. Kay-Shuttleworth, Geo. Wild, and R. W. Cairns. Of the mollusca, three belong to the Pelecypoda, and two to the Gastropoda. Two of these are altogether new to the coal measures, and one proves to be of considerable importance to miners, as it occurs, in all cases yet known, immediately over the valuable Cannel Mine of the middle coal measures. The brachiopod is interesting in that it occurs in the lower coal measures and, also, in a remarkable marine band of the middle coal measures at Ashton-under-Lyne, the two horizons being separated by nearly 2000 feet of rock matter.—On some errors in science, by C. L. Barnes.

PARIS.

Academy of Sciences, November 30.—M. A. Cornu in the chair.—On periodic solutions and the principle of least action, by M. H. Poincaré.—Scientific exploration by balloon, by M. Mascart. Simultaneous experiments were carried out with captive balloons at Berlin, Munich, Varsovie and St. Petersburg, and with free balloons at Paris, Berlin, Strasburg and St. Petersburg, for the purpose of carrying out meteorological observations. The highest altitude was reached by the Paris balloon, 15,000 metres, the temperature indicated being –60° C. Each ascent will be described later in full detail.—Estimation of nitric acid in the waters of the Seine, Yonne, and Marne, during the late rise, by M. Th. Schlœsing. The results obtained show that great rises in autumn contain much more nitrates than those at the end of the winter.—The lymphatics of the intestinal villosity in the rat and rabbit, by M. L. Ranvier.—On the periodic Giacobini comet, by M. Perrotin. A new system of elements for the Giacobini comet, from observations made at Nice between September 4 and November 3, 1896.—Actinometric observations made on Mount Blanc, by MM. Crova and Houdaille. From observations at Grands-Mulets (3020 metres), a value of 2·9 calories is deduced for the solar constant.—Remarks by M. Appell on the presentation of the second volume of his work on elliptic functions.—Reclamation of priority, by M. Stuart-Menteath, concerning his work on the geological constitution of the Pyrenees.—On the singularities of linear partial differential equations of the first order, by M. F. Marotte.—On a remarkable displacement, by M. Raoul Bricard.—On molecular entropy, by M. Georges Darzens. The product of the usual expression for the entropy of unit mass by the molecular weight of the substance, is called the molecular entropy. It is shown that for all bodies possessing similar molecular constitutions, compared in corresponding states, the difference of molecular entropy between two given states is the same.—On the absorption of nitric oxide by ferrous bromide, by M. V. Thomas. In aqueous solution at 10°, the absorption corresponded to the formation of the compound $3Fe_2Br_4.4NO$, at temperatures higher than this (15°–16°), the results indicated the formation of $Fe_2Br_4.NO$.—On the tempering of steel in phenol, by M. Levat. Comparative trials on the same steels tempered in water and phenol respectively, showed the hardness and elasticity in the latter case was much greater than in the former.—Action of potassium permanganate upon polyhydric alcohols and their derivatives, by M. L. Perdrix. Carbon dioxide, formic acid, and water are the only products.—Action of ammonium nitrate upon *Aspergillus niger*, by M. C. Tanret. An excess of ammonium nitrate in a solution in which *Aspergillus* is growing, tends to retard or even to prevent the formation of spores, the mycelium remaining white. At the same time that the *Aspergillus* is forced to grow by mycelium, free nitric acid appears in the cultivating liquid, and starch is formed in the tissue of the fungus.—Application of the Röntgen rays to the study of the skeletons of animals not extinct, by M. V. Lemoine.—The bacteria of coal, by M. B. Renault. A study of the fossil bacteria in coal. Two varieties of a species, named *Micrococcus carbo*, are described, together with a bacillus to which the name *Bacillus carbo* is given.—Minerals formed from lead scoriæ from Laurium, by M. A. Lacroix. The lead mines at Laurium (Greece), worked by the Athenians for lead and silver, gave rise to scoriæ rich in lead and unreduced galena. The sea-water, acting upon these scoriæ for more than two thousand years, has given rise to numerous crystallised minerals, among which were recognised laurionite, penfieldite, fiedlerite, phosgenite, cerussite, anglesite, matlockite, and hydrocerussite.—On the lower Cretaceous beds in valley of Oued Cherf, by M. J. Blazac.—On the ascent of the captive balloon at Paris on November 14, 1896, by MM. G. Hermite and G. Besançon.—Additional note to a preceding communication, on the relations existing between the lunar movements and barometric changes, by M. A. Poincaré.—On a new practical method of preparing acetylene, by M. L. Lechappe.—The microphone and the discovery of springs, by M. L. Holtz.—Nervopsychosis, by M. Boukteïeff.

DIARY OF SOCIETIES.

THURSDAY, DECEMBER 10.

ROYAL SOCIETY, at 4.30.—On Prof. Hermann's Theory of the Capillary Electrometer: G. J. Burch.—An Attempt to determine the Adiabatic Relations of Ethyl Oxide: E. P. Perman, Prof. Ramsay, F.R.S., and J. Rose-Innes.—The Chemical and Physiological Reactions of certain Synthesised Proteid-like Substances: J. W. Pickering.—An Experimental Examination into the Growth of the Blastoderm of the Chick: R. Assheton.

MATHEMATICAL SOCIETY, at 8.—A Discovery in the Theory of Compound Denumeration: Prof. Sylvester, F.R.S.—On the Stationary Motion of a System of Equal Elastic Spheres of Finite Diameter: S. H. Burbury, F.R.S.—Concerning the Abstract Groups of Order K! and $\frac{1}{2}$ K! Holoedrically Isomorphic with the Symmetric and the Alternating Substitution Groups on K Letters: Prof. E. H. Moore.—On the Influence of Viscosity on Waves and Currents: S. S. Hough.—On a Series of Co-trinodal Quartics: H. M. Taylor and W. H. Blythe.—The Connection of Quadratic Forms: Lieut.-Colonel Cunningham, R.E.—Description of Mr. Macfarlane Gray's Multiplying Apparatus: T. I. Dewar and Prof. Greenhill, F.R.S.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Annual General Meeting.

SOUTH LONDON ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY, at 8.—Notes on the North American Agrotis subgothica: W. Mansbridge.

FRIDAY, DECEMBER 11.

PHYSICAL SOCIETY, at 5.—The Application of Physics and Mathematics to Seismology: Dr. C. Chree.—On Musical Tubes: R J. Rudd.

ROYAL ASTRONOMICAL SOCIETY, at 8.—Report on the Expedition to Japan to observe the Total Solar Eclipse of 1896, August 9: W. H. M. Christie, Captain E. H. Hills, and H. H. Turner.—Report on the Expedition to Norway to observe the Total Solar Eclipse of 1896, August 9: A. A. Common.—Real Paths of 101 Meteors observed during the Ten Years ending November 1896: W. F. Denning.—Catalogue of Real Paths of Large Meteors: G. von Niessl.—Ephemeris for Physical Observations of the Moon, 1897: A. Marth.—The Theory of New Stars: W. E. Wilson.—Observations of Minor Planets at Windsor, New South Wales: John Tebbutt.—Comparison of the Sun's Longitudes for 1901, computed from Newcomb's Tables of the Sun, with those computed from Le Verrier's Tables: A. M. W. Downing.—Approximate Ephemerides of the Leonids for the First Four Months of 1897: G. Johnstone Stoney.

SATURDAY, DECEMBER 12.

ESSEX FIELD CLUB (at Chingford), at 7.—Note on the Discovery of the Male of Prestwichia aquatica in Epping Forest: F. Enock.—The Federation Ideal for Natural History Societies, with special reference to the Eastern Counties: G. S. Boulger.—On the Diffusion and Local Extinction of Molluscs: J. French.

TUESDAY, DECEMBER 15.

ZOOLOGICAL SOCIETY, at 8.30.—Contributions to our Knowledge of the Plankton of the Faëroe Channel: Dr. G. Herbert Fowler.—On the Genera of Rodents; an Attempt to bring up to Date the Current Arrangement of the Order: Oldfield Thomas.—On Lysechinus, a New Genus of Plesiocidaroids from the Tyrolese Trias: Dr. J. W. Gregory.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Papers to be further discussed: Tipping and Screening Coal: James Rigg.—The Surface Plant at Kirkby Colliery: Thos. Gillott.——Paper to be read, time permitting: Steel Skeleton Construction in Chicago: E. C. Shankland.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Some Probable Causes of Trouble in Photo-engraving, with Demonstrations of Methods for their Detection: Andrew Wybrandt-Penrose.

WEDNESDAY, DECEMBER 16.

GEOLOGICAL SOCIETY, at 8.—On the Subdivisions of the Carboniferous Series in Great Britain, and the True Position of the Beds mapped as the Yoredale Series: Dr. Wheelton Hind.—Note on Volcanic Bombs in the Schalsteins of Nassau: Prof. E. Kayser.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—An Attempt to Determine Velocity Equivalents of Wind-Forces estimated by Beaufort's Scale: Richard H. Curtis.—The Winter Climate of Egypt: Dr. H. E. Leigh Canney.

ROYAL MICROSCOPICAL SOCIETY, at 8.

THURSDAY, DECEMBER 17.

ROYAL SOCIETY, at 4.30.

LINNEAN SOCIETY, at 8.—On the Chalcididæ of the Island of Grenada: Dr. L. O. Howard.—On the Development of the Ovule of Christisonia, a Genus of the Orobancheæ: W. C. Worsdell.

CHEMICAL SOCIETY, at 8.—On the Experimental Methods employed in the Examination of the Products of Starch-hydrolysis; on the Specific Rotation of Maltose and of Soluble Starch; on the Relation of the Specific Rotatory and Cupric-reducing Powers of Starch-hydrolysis by Diastase: Horace T. Brown, F.R.S., Dr. G. H. Morris, and W. H. Millar.

ROYAL STATISTICAL SOCIETY, at 5.30.

FRIDAY, DECEMBER 18.

EPIDEMIOLOGICAL SOCIETY, at 8.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Wells, and Well-sinking: John W. Kitchen.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—The Story of the Chemical Elements: M. M. P. Muir (Newnes).—The Parasitic Diseases of Poultry; F. V. Theobald (Gurney).—The Story of our Planet: Prof. T. G. Bonney, cheap edition (Cassell). List of the Vertebrated Animals now or lately living in the Gardens of the Zoological Society of London, 9th edition (Longmans).—The Plant-Lore and Garden-Craft of Shakespeare: H. N. Ellacombe, new edition (Arnold).—The Natural History of the Marketable Fishes of the British Islands: J. T. Cunningham (Macmillan) – The Tutorial Chemistry. Part 1. Non-Metals: Dr. G. H. Bailey (Clive).—Report on the Work of the Horn Scientific Expedition to Central Australia, Part 1 and Part 4 (Dulau).—Charles Darwin and the Theory of Natural Selection: Prof. E. B. Poulton (Cassell).—Annuaire pour l'an 1897, publie par Le Bureau des Longitudes (Paris, Gauthier-Villars).—Catalogue of the Michigan Mining School, 1894-96 (Houghton, Michigan).—Zoological Record, 1895: edited by D. Sharp (Gurney).—Le Déterminisme Biologique et la Personnalité Consciente: Dr. F. Le Dantec (Paris, Alcan).—Grasses of North America: Dr. W. J. Beal, Vol. 2 (New York, Holt).

PAMPHLETS.—Die Elektrodynamischen Grundgesetze und das Eigentliche Elementargesetz: F. Kerntler (Budapest, Pester Lloyd Gesellschaft).—Atmospheric Circulation in Tropical Cyclones: H. B. Boyer (Key West, Fla.).—Kite Experiments at the Weather Bureau: Prof. C. F. Marvin.—Mountain Observatories in America and Europe: E. S. Holden (Washington).

SERIALS.—Notes from the Leyden Museum, Vol. xviii. No. 1 (Leyden, Brill).—Geological Magazine, December (Dulau).—Cassell's Technical Educator, new edition, Part 1 (Cassell).—Geographical Journal, December (Stanford).—Fortnightly Review, December (Chapman).—Observatory, December, and Companion (Taylor).—Tübinger Zoologische Arbeiten, ii. Band, No. 1 (Leipzig, Engelmann).—Lehrbuch der Allgemeinen Chemie: Dr. W. Ostwald, Zweiten Bandes, Zweiter Teil; Erste Liefg., Zweite Auflage (Leipzig, Engelmann).—Quarterly Journal of Microscopical Science, November (Churchill).

CONTENTS.

PAGE
Modern Psychology. By W. E. Johnson 121
A Manual of Dairy Work 122
Our Book Shelf:—
    Boulger: "Elementary Geology" 123
    "Annual Report of the Geological Survey of Canada" 124
    "Poems of George John Romanes" 124
Letters to the Editor:—
    The Pound as a Force, and the Expression of Concrete Quantities generally.—**Prof. Oliver J. Lodge, F.R.S.; Dr. M. J. Jackson; L. Cumming** . . 124
    Recent Work on the Madreporarian Skeleton.—**Dr. Maria M. Ogilvie** 126
    British Association.—Toronto Meeting, 1897.—**Alan Macdougall** 127
    A Case of Abnormal Magnetic Attraction.—**Lieut. A. G. Froud; Thos. Rogers** 127
The Natives of Sarawak and British North Borneo. (*Illustrated.*) **By Prof. Alfred C. Haddon** 128
The Alloys of Copper and Zinc. (*Illustrated.*) **By Dr. T. K. Rose** 130
Dr. Benjamin Abthorp Gould. By W. E. P. . . . 132
Notes 133
Our Astronomical Column:—
    Leonid Meteors in America 137
    A New Spectroscopic Binary in Puppis 137
    Relative Motion in the Line of Sight 137
    Formulæ for Computing Wave-lengths 137
The "Lincei" and Experimental Science. By Signor Todaro 138
The Natural Immunity of Venomous Snakes. By A. A. K. 139
University and Educational Intelligence 140
Scientific Serials 142
Societies and Academies 142
Diary of Societies 144
Books, Pamphlets, and Serials Received 144